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JULY 1952

Vol. 2 • No. 3

PUBLIC LANDS

BUREAU OF LAND MANAGEMENT



OUR PUBLIC LANDS . . .



500 million acres of land that belong to us and to our neighbors and to all the people of the United States . . . public lands that are rich in natural resources . . . timber, rangeland, water, minerals, and land for every use . . . "active acres" that must be carefully and wisely managed for the welfare of the Nation . . .

As a forum for the exchange of ideas and information on the development, utilization, and conservation of the resources on public lands, this periodical contains no copyrighted material. If pictures or material are reprinted, a credit line should be given OUR PUBLIC LANDS and the Bureau of Land Management.

CARLOS WHITING, *Editor*.

Issued quarterly by

UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

Washington 25, D. C.

The printing of this publication has been approved by the Director of the Bureau of the Budget, April 3, 1952

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COVER

Rangeland reseeding projects, typical of Bureau of Land Management conservation activities, will be examined by delegates to the Sixth International Grassland Congress who will go on western tour this fall. Projects similar to the range pasture reseeding shown on the cover will be visited. The cover photo, by Royale K. Pierson, was taken at Cloyd Mountain in Nevada Grazing District No. 5.

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SIXTH INTERNATIONAL GRASSLAND CONGRESS

The Sixth International Grassland Congress will be held August 17-23 at Pennsylvania State College, State College, Pa., with Bureau of Land Management representatives participating. The Congress is sponsored jointly by the United States Government and the Food and Agricultural Organization of the United Nations, with the collaboration of Federal agencies, educational institutions, and other cooperating organizations. The Federal agencies include the Department of State, Department of Agriculture, Department of the Interior, and the Mutual Security Agency. Governments of more than 60 countries have been invited to send official delegates.

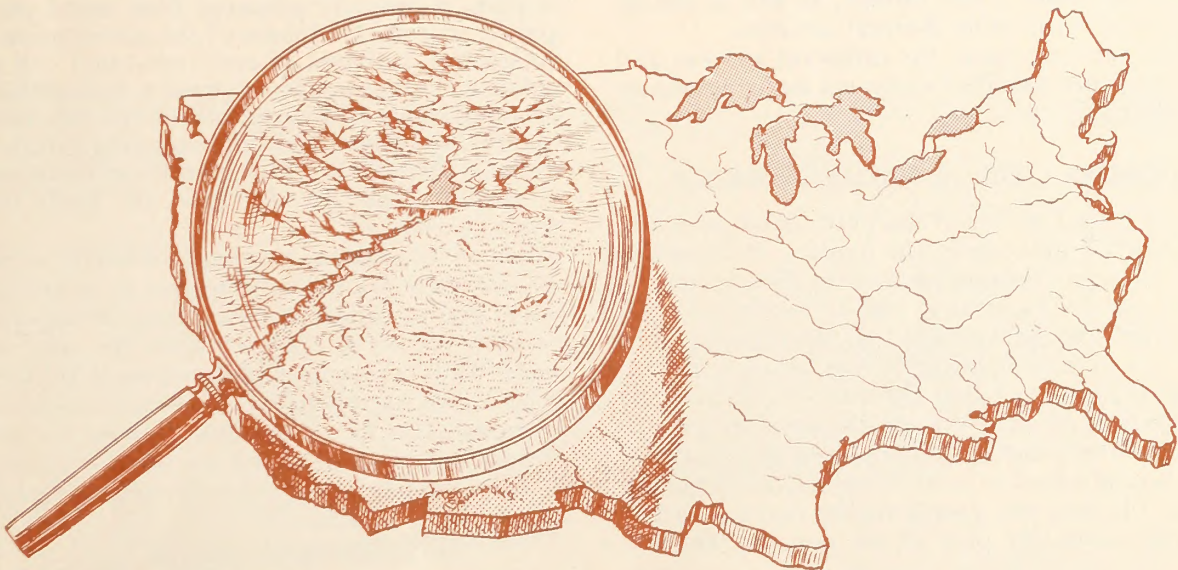
This is the first Grassland Congress to be held in this country. The First was held in Germany in 1927, the Second in Sweden and Denmark in 1930, the Third in Switzerland in 1934, the Fourth in Great Britain in 1937, and the Fifth in the Netherlands in 1949. The Fifth Congress voted to hold the Sixth International Grassland Congress in the United States.

The program of the Congress will include

plenary sessions, sectional meetings, and visits to experimental grassland work throughout the United States, and grassland demonstrations. Plans have been made for approximately 250 scientific and technical papers to be presented, with at least 100 of these papers from grassland experts from countries other than the United States.

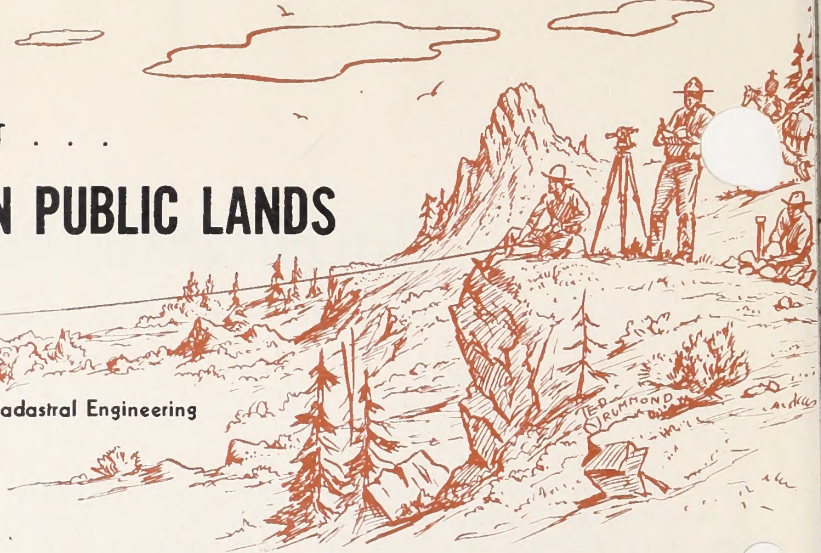
Grasslands of the world occupy more than half of the earth's entire surface, and grassland agriculture is one of the most important factors affecting the future of agriculture in the world today. Grassland farming is not only a foundation for a better-fed population, but also offers substantial benefits in soil conservation and watershed management.

The Bureau of Land Management, as the administrator of the Federal range . . . amounting to 156 million acres in organized management units . . . is vitally concerned with grassland. Some of BLM's reseeding and conservation projects in Montana, Idaho and Utah may be included in the itinerary for the Western Tour of the Congress.



CADASTRAL SURVEYS ON PUBLIC LANDS

by EARL G. HARRINGTON, *Chief, Division of Cadastral Engineering*



There have been many marked changes in the needs for the cadastral survey of public lands since the Government assumed the responsibility of managing those lands. The first surveys, made in 1786 under the provisions of the Northwest Ordinance of 1785, in eastern Ohio, were for disposal and settlement. Until the management era of the public lands by the Bureau of Land Management, actually initiated by the Taylor Grazing Act of 1934, surveys continued to be made for disposal and settlement. Since the passage of that act the majority of BLM's cadastral surveys and resurveys have been made to aid in the management of lands. In fact, cadastral surveys are a basic tool of our land management program.

Cadastral surveys—the official survey and resurvey of all public domain in continental United States and Alaska—create and reestablish boundaries of the public land subdivisions, mark them on the ground with substantial monuments, and furnish the legal descriptions and areas on which titles are based. The surveys are basic to the administration and management of the lands under the jurisdiction of this Bureau, as well as the activities of many other Federal agencies.

The primary needs for cadastral surveys and resurveys are classified under six major headings, as follows:

TO TRANSFER LANDS TO PRIVATE OWNERSHIP

The cadastral survey of the public land generally is taken for granted by the public. It is considered to be just another task by the Government to carry out its obligations. Many owners of land, although vitally concerned in determining that the title to their holdings is complete, are not interested in the fact that before patents are issued the boundaries of the tracts described in the patents have been surveyed on the ground and monuments established to mark or control those boundaries. In fact few people realize that the survey record is actually part of the patent. The Su-

preme Court of the United States has held that the field notes and plat upon which the patent is based become as much a part of the patent, and control, so far as limits are concerned, as if the descriptive features noted in the field notes and shown upon the plat were written out upon the face of the deed. The original survey records upon which titles are based are therefore exceedingly valuable to every property owner.

TO IDENTIFY BOUNDARIES FOR THE ADMINISTRATION OF PUBLIC LANDS

The cadastral survey is the first step in any form of land management undertaken by the Government. The administrator must know where the land is if he is to administer it. The problem of the public land administrator is particularly complicated in those areas where there are tracts of privately owned land within the boundaries of the Federal land holdings—a very common situation. A cadastral survey will locate and mark the boundaries of the land on the ground. The plat, or plan, if properly prepared from aerial photographs, and the field notes of the survey gives the designation and area of each individual unit and indicates by appropriate symbol a delineation of the topography of the area, including a representation of the culture and improvements within the limits of the survey. This gives the administrator a general idea of the type of land being administered.

For administrative purposes, cadastral surveys are necessary for the development of mineral deposits and to define the boundaries of immensely valuable stands of timber within the area of O and C lands in Oregon, and elsewhere on the public domain; for the identification of the boundaries of lands valuable for oil and gas; to meet the needs of range management; and for the establishment of homes and business sites throughout the area of the public domain.

(Continued on page 14)

PLANNING FOR LAND USE

by RUSSELL S. KIFER, *Chief, Division of Lands*

To give even better service, the Bureau of Land Management through its Division of Lands has brought together into one administrative unit the functions of land planning, land classification, and adjudication necessary for land-use planning and disposal activities.

Public land policy has changed markedly from the indiscriminate land disposal of a hundred years ago to one of land and resource management which recognizes public interest in public lands and the responsibility of putting these lands into their highest use.

Today the Bureau of Land Management manages the surface resources and the sub-surface resources of public lands to provide for the best use and protection of the many values found in any particular section of land . . . values that include crop production, forests, range, minerals, water, wildlife, recreation and natural beauty, as well as sites for homes and businesses.

True multiple-use of the public lands, a dominant factor in all Bureau of Land Management policy, can be achieved only if thorough study is

made of the lands before they are released to use—through permits, licenses, leases, or patents.

Basic programs of the Division of Lands are: (1) land classification which seeks to learn the best use of the land and to classify it prior to settlement; (2) land use and disposal, which seeks to place the lands under the most effective type of management; and (3) research and analysis which is a necessary function of the division in keeping track of what is happening to the public domain and for developing policies for its use.

The public reacts with considerable interest to the small tract program, the question of land for homesteads, settlement, public sale and desert land entries. The interest in agricultural lands, small tracts, and townsites in Alaska is one aspect of this concept. This function of the Division of Lands can find its place in a management program only with the work of the land classification branch and the branch of research and analysis—which provide the basic information and guidance. The next issue of OUR PUBLIC LANDS will feature items on the major work of each part of the Division.



THE PRICELESS SANTA FE RECORDS

by GUY P. HARRINGTON, retired BLM Cadastral Engineer,
and GEORGE H. WELL, Cadastral Engineer, Region V

A locked vault in the Santa Fe Land and Survey Office contains thousands of the most historic documents in public land history of the Southwest—documents known to researchers as “the miscellaneous archives and the Spanish and Mexican land grant cases.” These ancient papers are a part of the mass of evidence collected and used by the Surveyor General and the Court of Private Land Claims in the adjudication process. The court, created by the Congress on March 3, 1891, was convened to unravel the many claims made to land under the treaty of Guadalupe Hidalgo. One of the provisions of the treaty which ended the war with Mexico was that the United States would recognize title to all lands granted by the Spanish crown and by the Republic of Mexico.

William Pelham, the first Surveyor General of New Mexico, tried to handle the claims, but barrels of paper swamped his office and he had to ask for help in processing the cases. The Court of Private Land Claims took 13 years to settle the many claims.

Today, all papers amassed as evidence for the court are kept in the Santa Fe vault. These include not only the miscellaneous archives but the

dockets, case files, and numerous Surveyor General records. The dockets and Surveyor General records are used frequently by lawyers in present land claims. Historians and researchers, however, find their greatest treasures in the Spanish papers of “the miscellaneous archives.” These were catalogued and classified by Ralph Emerson Twitchell of the New Mexico bar. His book, *The Spanish Archives of New Mexico*, compiled and chronologically arranged with historical, genealogical, geographical, and other annotations, by authority of the State of New Mexico, Volume I, appeared in 1914. It is invaluable in hunting out the old records.

The oldest archive appears to be No. 728, dated July 12, 1682. This is the record of a trespass in Taos County. The most interesting old paper is the will of Don Diego de Vargas Zapata Lujan Ponce de Leon, Marquis of La Nava de Brazinas. De Vargas was the liberator of Santa Fe after the Indian Rebellion. His will, Archive No. 1027, dated 1704, is hand written in old Spanish on both sides of 10 pages of cracked parchment paper.

Another entertaining archive is No. 827 showing

(Continued on page 12)



ARCHIVES. Manager James DeLany, BLM Santa Fe Land and Survey Office, and Guy Harrington, examine old Spanish records.



FORGERIES. The Baron of Arizona forgeries interest Clara Berthold and Netta Hawk, of the Santa Fe office.



GIGANTIC DUNE. This foredune is encroaching on the Siuslaw National Forest near Florence, Oregon. Sitka spruce nearly 200 feet tall are gradually buried by the moving sand.

CONTROLLING OREGON SAND DUNES

by LEON R. NADEAU, *Regional Chief, Soil and Moisture Conservation, Region I*

Controlling sand dunes along the Oregon coast near Florence is a unique, cooperative project of the Bureau of Land Management, Forest Service, Soil Conservation Service, The Siuslaw Soil Conservation District, Lane County Court, and the Port of Florence.

Beach sands blown into the Siuslaw River obstruct the commercial shipping channel and interfere with drainage of the tidewater basin. Drainage of farm lands is made particularly difficult by high water levels, causing serious losses to agricultural crops. The Bureau of Land Management is interested because there are about 1,200 acres of public land from which the sands move into the river and on which the dunes must be controlled.

Improvements in the Siuslaw harbor were begun nearly 50 years ago by the United States Army Corps of Engineers. The ship channel was changed and jetties were constructed, but subsequent studies determined that further efforts to improve the harbor and drainage of the tidewater basin would be futile unless the movement of sand into the river could be stopped. In recent years, the problem had become more acute. The Port of Florence Port Commission and the land owners of the Siuslaw valley resolved to do something about it.

It was soon agreed that the first requirement was one of land treatment to stabilize the sand-dune area. Once this could be accomplished,

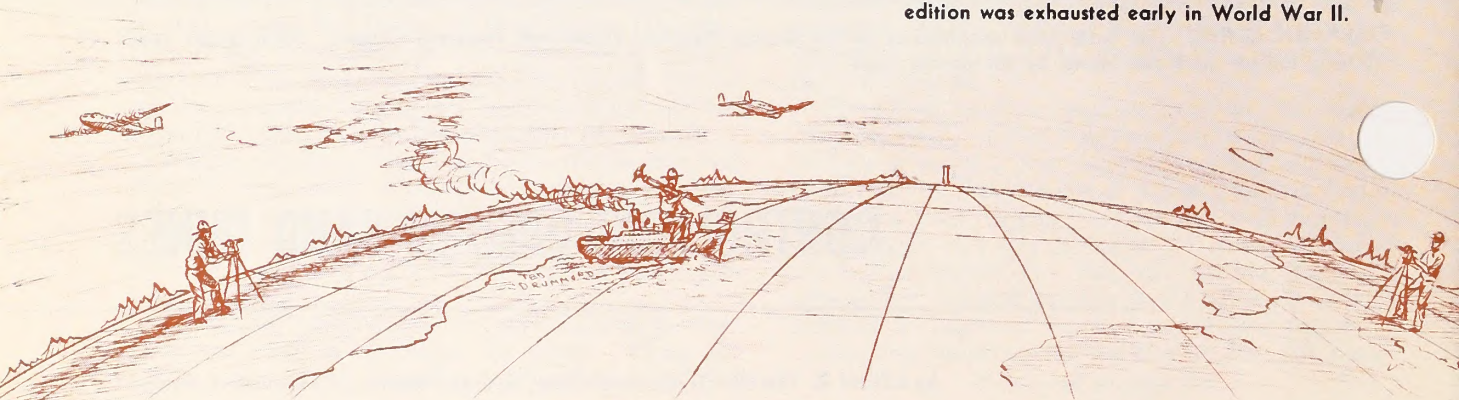
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SURVEYS

from pole to pole



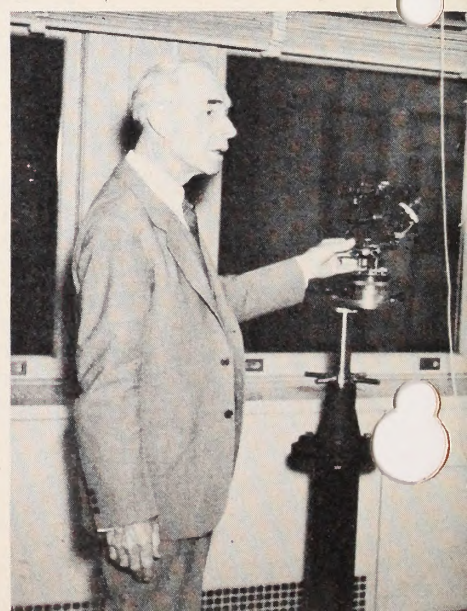
MASTER MAP. The official master map of the United States, based on cadastral surveys, was first authorized by Congress in 1880 and was issued for 61 years at regular intervals. In demand by schools, libraries and general public, the latest edition was exhausted early in World War II.



SURVEYING. With transit and steel tape, cadastral surveyors make their way over boulders and through dense cover to mark the public domain boundaries.



SCIENTIST. Arthur D. Kidder, retired cadastral surveyor and leading scientist, helped perfect instruments and methods for modern surveying.



Cadastral engineers have established a survey net across the public domain of the United States and Alaska that is the basic feature of land management. From the Alaskan arctic to Florida, and across the Middle West and West, stretches a grid of monuments that establish and mark on the ground the townships and sections—and some of the State boundaries—that govern administrative activities of all land use, both public and private.

Because of their experience, BLM cadastral surveyors are in demand for technical assistance in other parts of the world. Little known by most of the people, the Bureau of Land Management has on request detailed its surveyors for special work in the Antarctic, with Rear Admiral Richard E. Byrd, and in the Philippines, Paraguay, and Germany on Point Four missions.

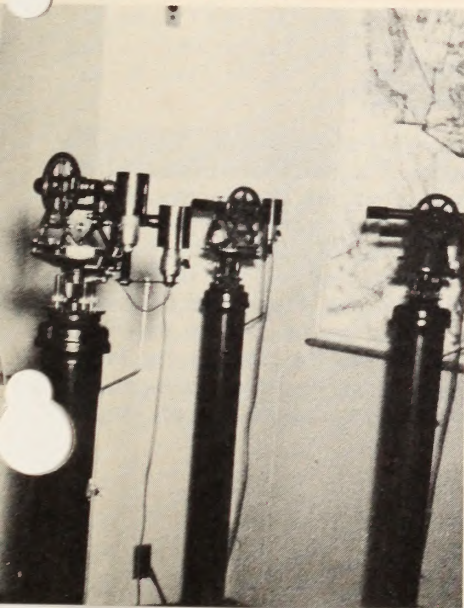
Surveyors of the Bureau of Land Management have literally worked from pole to pole and around the world. Typical of the recognition of their abilities is the invitation extended Earl G. Harrington, BLM's cadastral engineering chief, to attend the British Commonwealth-United States Surveyors' Conference at Wellington, New Zealand, as this Nation's representative. At that conference, British Commonwealth surveyors discussed with Mr. Harrington the advantages of promoting a better understanding of mutual problems, of pooling, in the interest of efficiency and cooperation, the wide and varied experiences of all countries in the field of survey practice, and the adoption of world-wide definitions and standards.



MONUMENT. Corners of public domain townships and sections are established and marked by metal monuments, with witness trees blazed for reference purposes.

engineer and one of the Nation's
measurement techniques.

ANTARCTIC SURVEYOR. Leonard Berlin, forced to evacuate the ice in 1939, left this transit—found and returned in 1944 by the Argentine navy.





active acres

ACTIVITY MAP

Contributing to the economy of Wyoming are the 17 million acres of public land under the Bureau of Land Management's jurisdiction. As shown on the activity map on page 15, these lands are important for grazing use, and for the production of oil, gas, coal, timber and materials such as bentonite. In 1951, 1,361 livestockmen grazed over one million sheep, 203,579 cattle, and 8,157 horses on 14½ million acres of public land in grazing districts. Grazing amounted to 2 million animal-unit-months. In addition, over 64,000 big-game animals, principally antelope and deer, used 102,000 animal-unit-months of feed from Federal range. Outside of grazing districts, there are approximately 3 million acres of public lands leased to ranchers for grazing.

Wyoming produces more oil under Federal lease than any other State—over 80 million barrels in fiscal year 1951. Natural gas production of nearly 26 billion cubic feet under Federal lease was second only to New Mexico. During the same period, over 35 million gallons of natural gasoline were produced under Federal lease, and 1,933,000 tons of coal were mined. Income from Federal mineral leases and permits in Wyoming totaled over 13 million dollars in 1951, a third of all United States collections from this source.

Recent activity in oil and gas exploration and development has spurred needed surveys on public domain lands in Wyoming. In 1951, a total of 133,020 acres of cadastral survey was completed in the State by the Bureau of Land Management.

Range improvements and conservation structures and practices established on public lands in Wyoming are numerous and important. Nearly 1,000 reservoirs have been built by means of earth dams, 158 wells have been drilled, 83 springs have been developed and nearly a mile of pipeline has been installed. In addition, dikes have been constructed on 6,705 acres of land, 3,000 acres have been contour furrowed, 98 diversion dams and 5 miles of diversion ditches have been built. Other

improvements include 2,000 miles of truck and stock trails, 60 bridges and 40 cattle guards, 346 miles of stock driveways, 1,047 miles of fences and 30 corrals.

The Bureau is also continuing its programs of reseedling the range, and the cooperative control of noxious weeds, predators and pests.

CONFERENCE

The National Conference on International Economic and Social Development was held on April 7, 8, and 9 at Washington with some five thousand people attending the plenary and project sessions. Outstanding speakers included Nelson A. Rockefeller, Walter P. Reuther, Eric Johnston, Dean Acheson, with William E. Warne, former Assistant Secretary of the Department of the Interior and now minister to Iran, a special guest on one of the panels. Stanley Andrews, newly appointed Point Four administrator, commended Mr. Warne for the good job he is doing in that country.

The conference provided a means of acquainting various groups with the best methods of presenting the Point Four program. Regional conferences of a similar nature are being considered.

EDUCATION

As a member agency of the Advisory Committee for the Conservation Project of the National Association of Biology Teachers, the Bureau of Land Management is helping the various State committees to obtain descriptions of outstanding projects, activities, and techniques of biology teachers.

This conservation project is designed to develop and promote the acceptance of a set of criteria or objectives, which can be documented by actual illustrations of good teaching techniques particularly by biology teachers, and which can be used

to stimulate many more teachers to increase the emphasis on conservation.

The National Committee has now developed a set of criteria, illustrated with the types of projects they are looking for, which can be obtained from any of the western regional chairmen listed below or from the Project Leader, Richard L. Weaver, P. O. Box 5424, State College Station, Raleigh, N. C.

The Bureau of Land Management wants to help NABT locate material which can be published for the use of other teachers and leaders interested in promoting conservation education. Teachers and others who are familiar with projects giving emphasis to conservation may obtain instructions for preparing descriptions of teaching techniques from the regional chairmen or from Dr. Weaver.

REGION I (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island)—Chairman, Kent Warner, 2 Howe Street, New Haven, Conn.

REGION II (New York, Pennsylvania, New Jersey)—Chairman, Joe Horvath, P. O. Box 273, Mahanoy City Iowa.

REGION III (Ohio, Indiana, Illinois, Michigan, Wisconsin)—Chairman, Arthur Baker, Crystal Lake High School, Crystal Lake, Ill.

REGION IV (Minnesota, Iowa, Missouri, Kansas, South Dakota, North Dakota, Nebraska)—Chairman, Darrell Lantz, Iowa State Teachers College, Cedar Falls, Iowa.

REGION V (Delaware, Maryland, Washington, D. C., Virginia, West Virginia, North Carolina, South Carolina, Kentucky, Tennessee)—Chairman, Charles E. Packard, Box 7, Star Route, Ashland, Va.

REGION VI (Georgia, Florida, Arkansas, Alabama, Mississippi, Louisiana)—Chairman, Aldina Gates, Box 8159, University Station, Baton Rouge, La.

REGION VII (Oklahoma, Texas, Arizona, New Mexico)—Chairman, Howard Weaver, Texas Forest Service, College Station, Tex.

REGION VIII (Utah, Montana, Nevada, Wyoming, Colorado, Idaho)—Chairman, Clifford D. Knapp, Gallatin County High School, Bozeman, Mont.

REGION IX (California, Oregon, Washington)—Chairman, Leo Hadsall, Fresno State College, Fresno, Calif.

REVIEW

RANGE MANAGEMENT PRINCIPLES AND PRACTICES, by A. W. Sampson, John Wiley & Sons, Inc., New York City, 1952. This book, written by one of the Nation's most eminent range management authorities, meets a longstanding need by bringing into singular focus the fundamentals of all the fields relating to range management. It presents in simple terms the meat of the principles and

practices involved, but with a scientific approach that points toward more intensive study of related fields. Although the book appears to be particularly suited as a text for a beginning course in range management, it will prove refreshing and informative reading for "old hands" as well.

The text is divided into four parts. Part one, *Range Management in Perspective*, describes range management and its importance, the world's primary grazing practices and problems, plant physiology and ecology, the physical and vegetal characteristics of the United States grazing lands, and the historical development of grazing in the United States.

Part two, *Native Range Forage Plants*, is a revision of Dr. Sampson's earlier book, *Native American Forage Plants*. It describes the more important western range plants, their distribution, botanical characteristics, and forage values. Although the book is broadly informative, the number of plants considered and their description is too limited to be of material local value.

Part three, *Improvement and Management of Range and Stock*, considers the fundamentals of natural and artificial reseedling and control of noxious weeds by fire and chemicals. Supplemental range feeding, watering, grazing systems, and general animal-husbandry practices on the range are discussed. Separate chapters are devoted to range condition, forage utilization and resource inventories as well as to economic, physical and social aspects of ranching.

Part four, *Protection of Land Resources and Range Livestock*, relates to timber reproduction and use of shelter belts, poisonous plants (their recognition and control) foraging and predatory wildlife, soil erosion, and agencies administering Federal, State and county lands.

Bureau employees will be disappointed in reading the chapter on public land administration to find that Dr. Sampson considers the public domain as only having a minor amount of multiple uses. He states that the stockmen's conflict with the Forest Service stems from the principle of multiple-use management of national forests; whereas, Dr. Sampson also says, the Bureau of Land Management is but indirectly involved in the stockmen's opposition, since most of the lands administered by the Bureau are primarily useful for grazing.

Dr. Sampson's observation is not in keeping with the Bureau's program which is keyed to the principle of multiple-use management. This principle is essential, since the public domain, in addition to providing grazing by domestic livestock, supports wildlife, timber and woodlands, has vital watershed values, contains vast mineral deposits, provides much recreation and has many special uses, including but not limited to, home, cabin and business sites, dam sites, rights-of-way, and agriculture.

J. R. PENNY, *Range Conservationist*.

SANTA FE RECORDS

(Continued from page 6)

ing the signature and coat of arms of Joseph Chacon Medina Salazar y Villaseñor, Marquis of La Penuela, who rebuilt the San Miguel chapel in 1710. This chapel is the now famous old San Miguel church in Santa Fe.

The miscellaneous archives, court, and Surveyor General records, contain the following types of materials: (1) Indexes and 14 bound volumes of translations; (2) Spanish and Pueblo Indian Land Grant cases comprising the original land grant plats in New Mexico, with dockets and journals filed with the office of the Surveyor General for New Mexico and the United States Court of Private Land Claims; (3) Books A and C of the Kearney Code. There were originally four books in the Code. Book B disappeared in the eighties and Book D also has been missing for some years. The Code, made by General Stephen Watts Kearney after the conquest of Mexico, set forth, among other things, how lands were to be registered. These books show the records of such registrations; (4) New Mexico small-holding claim applications; (5) Correspondence, including early letters of the Surveyor General for New Mexico.

The precious files in the Santa Fe vault contain a number of thick, bound volumes, old-time pictures, and legal papers. One of these bound books

contains the testimony in the Peralta case. A researcher from the Fox movie studio spent considerable time with these old records in preparation of the movie, *The Baron of Arizona*. The "Baron"—James Addison Peralta-Reavis—laid claim to 12½ million acres of land in Arizona and New Mexico. This man, who forged ancient Spanish documents, paid for his swindle in prison. His almost unbelievable story has provided plot material for many writers.

The most recent article on the subject is, *The Red Baron of Arizona*, by Clarence Buddington Kelland, *Saturday Evening Post*, October 11, 1947. An earlier article written about the time Reavis went to prison was entitled, *The Bogus Baron—The Gigantic Hoax of Arizona's Royal Family*. This article, making good use of the pictures collected for the trial, was written by Dell Roensch. It was published in *True Magazine*. The date of the magazine is not shown on the clipping. A February 1898 issue of the *Land of Sunshine*, published in Los Angeles, gives the tale under the heading, *The Prince of Impostors*, by William Tipton.

The old records in the Santa Fe vault have not always rested as peacefully as they do today. When the city of Santa Fe was taken over by the Confederates, the records were hastily moved to Fort Union, New Mexico. Later they were returned to the Land Office vaults.

Efficiency Corner

REORGANIZATION PAYS DIVIDENDS

Prior to the establishment of the several regional headquarters of the Bureau of Land Management, the cadastral engineering activities were carried on from operating offices in each of the 11 Western States. In each of these offices there was maintained the record of the public land surveys for that particular State; each office was staffed with the necessary supervisory and facilitating personnel, such as draftsmen, stenographers, etc., in addition to the field engineers assigned to that particular locality.

After the regional offices were set up and the work largely decentralized to those offices, the need for maintaining the supervisory and operating staffs in all of the survey offices was not apparent, but it was recognized that the plats and field notes

should be available within the States for reference.

In order to effect economies and at the same time improve the efficiency of operations, a plan for the reorganization of the cadastral engineering work in the several regions was instituted. Under that plan the survey offices in the States away from regional headquarters have been combined with the land offices in those States to form a land and survey office. The official plats and field notes pertaining to the public land surveys and the mineral surveys have been retained in these offices.

Engineering operations are now conducted and supervised from the five regional offices in the Western States and the field engineers operate throughout the region.

By this reorganization the overhead costs have been reduced substantially. At the same time the interests of the public are being served by retaining the official survey records in the States, with experienced employees to make the records available. This has resulted in a reduction of overhead costs of about 10 percent, which savings have been put into actual field work.



PROBLEM. Sand dunes on this strip of public land move into and choke the Siuslaw River.



SOLUTION. Plantings of European beachgrass have proved the only practical control.

CONTROLLING SAND DUNES

(Continued from page 7)

there was adequate assurance that harbor and drainage improvement would follow. The immediate need was for trained conservation technicians to plan and supervise the work, and funds to finance it.

The Siuslaw Soil Conservation district was organized, making available the wealth of dune control experience and the nursery stocks to be had through the Soil Conservation Service. Other local and Federal agencies were brought into the program to assist with the work on lands owned or administered by them.

Experience has proved that vegetation will permanently and effectively control coastal sand dunes. Establishment of vegetal cover on clean, white beach sand requires special treatment, particularly when the sand is continually moving. Nutrients to support plant growth on sand are almost entirely absent.

Conservationists have found that beachgrass, a native of dune areas, is the best plant available for initial dune control. Two species are used; American beachgrass and European beachgrass. Both are large, coarse grasses having growth characteristics adapted to "blow sand" areas. Propagation is largely by rhizomes and root stalks.

Planting stock grown in nurseries is transplanted by hand at an 18- by 18-inch spacing. Following planting, the area is treated by airplane with approximately 40 pounds equivalent of nitrogen per acre to stimulate growth and insure a stand.

After the beachgrass has become established, scotch broom, shore pine, huckleberry, and salal are also planted. After 10 to 15 years the dunes are completely covered with dense vegetation and

the movement of sand is permanently and completely stopped.

The first beachgrass nursery was established on the Siuslaw project in the fall of 1948. A larger one was added in 1949. The nurseries are interesting in that they consist of control plantings in the dune area, and as the beachgrass clumps increase in size it is possible to separate the clumps and reset the new plants in other areas—without detracting materially from the controlling effect on the sands of the original plantings. By 1950 sufficient planting stock was on hand to plant 36 acres. An additional 98 acres were planted in 1951 and 120 are programmed for 1952.

Plantations are laid out in buffer strips or belts across the problem area to create foredunes. These in turn check the movement of sand across the area and a general leveling of the land between the foredunes takes place. By 1953, the terrain probably will be sufficiently smoothed out to permit planting by machine—resulting in greater acreage at less cost. At the present time the planting cost averages about \$68 per acre, plus the cost of nursery stock and supervision.

The results of the land treatment so far are promising enough that action has been renewed on planning of harbor improvements and a drainage program for the tidewater area. By the time that stabilization of the dune area is accomplished, the development program will be ready to go forward under the sponsorship of the Port Commission and Government agencies responsible for flood control and the development of rivers and harbors.

The sand dune area itself—now a barren waste land—will, on completion of the program, become a valuable tract of land suitable for recreation and wildlife.

As the sands are curbed and the dunes at the ocean's edge are leveled to a gentle slope, it is possible that Oregon—with its rocky coastline—will find use for the area as a public beach.

CADASTRAL SURVEYS

(Continued from page 4)

TO AID FEDERAL AND STATE MAPPING PROJECTS

The cadastral survey of the public land is an aid to mapping projects. Our work is of sufficient accuracy to furnish control. Monuments are established at the four corners of each section as well as the quarter-corners on the boundaries of the section. All geodetically established stations are connected to the corners of the rectangular system of surveys at the time the field work is executed. Based upon these connections, the precise latitude and longitude of each monument in the township can be computed. The vast monumented net of cadastral surveys—eight monuments to a square mile—over the public domain, furnishes control for practically all types of mapping projects.

TO COMPLETE THE ORIGINAL SURVEYS

Prior to the management era, the original survey of Federal land was made generally for the purpose of identifying and providing legal descriptions for areas suitable for agricultural and stock-raising purposes. Accordingly many of the rough mountainous areas, as well as desert areas, have not been surveyed. The value and future need of timber and the potential mineral deposits in these unsurveyed mountainous and desert areas constitute one of the primary needs of the completion of the surveys. The development of these national resources will be retarded unless the original surveys are carried forward in advance of use and discovery. Title to school lands, granted to the various States by the Government, does not vest in the States until the lands are identified by survey.

SURVEYS NEEDED IN ALASKA

The lack of surveys is seriously retarding the settlement of Alaska and the development of the natural resources in that Territory. The identification of land areas by cadastral survey is a prerequisite to the acquisition or use of lands in the development of mineral resources, homesteading, the establishment of townsites, the adjudication of applications, and the general administration of the public land laws. Business and industry cannot flourish and money cannot be obtained by the settlers for the development of Alaska unless the lands are surveyed and patents are issued. The Bureau of Land Management has been unable to meet the growing demands of the ever-developing Territory. Applicants for lands are forced to wait two or three years, or longer before the Bureau can make the surveys. Failure on the part of the public to understand the situation has resulted in criticism concerning the administration of the public lands in Alaska.

NEED FOR RESURVEYS

Many of the original surveys in the 11 Western States, where most of the public land is located, were made from 75 to 90 years ago, often by private concerns under contract with the Government, and the corners were marked with wooden stakes or other non-permanent material. These corners in many areas are obliterated and there is now an urgent need for resurveys. This need in continental United States cannot be overemphasized. The situation existing in the O and C area in western Oregon demonstrates that need. It has been necessary to postpone or decline O and C timber sales where the condition of the original survey makes impossible the fixing of sales boundaries with any assurance of correctness.

The importance of cadastral surveys is recognized by all agencies dealing with the public lands. The President's Water Resources Policy Commission in its report, Volume 1, Page 332, states:

"Before development of the water resources can be undertaken in areas of intermingled public and private land, boundaries and limits of ownership must be established. The cadastral survey of the public domain constitutes a basic fact for any resource consideration of the public lands."

In the United Nations publication, World Cartography, Volume 1, 1951, page 6, it is stated concerning the value and need for cadastral surveys, that:

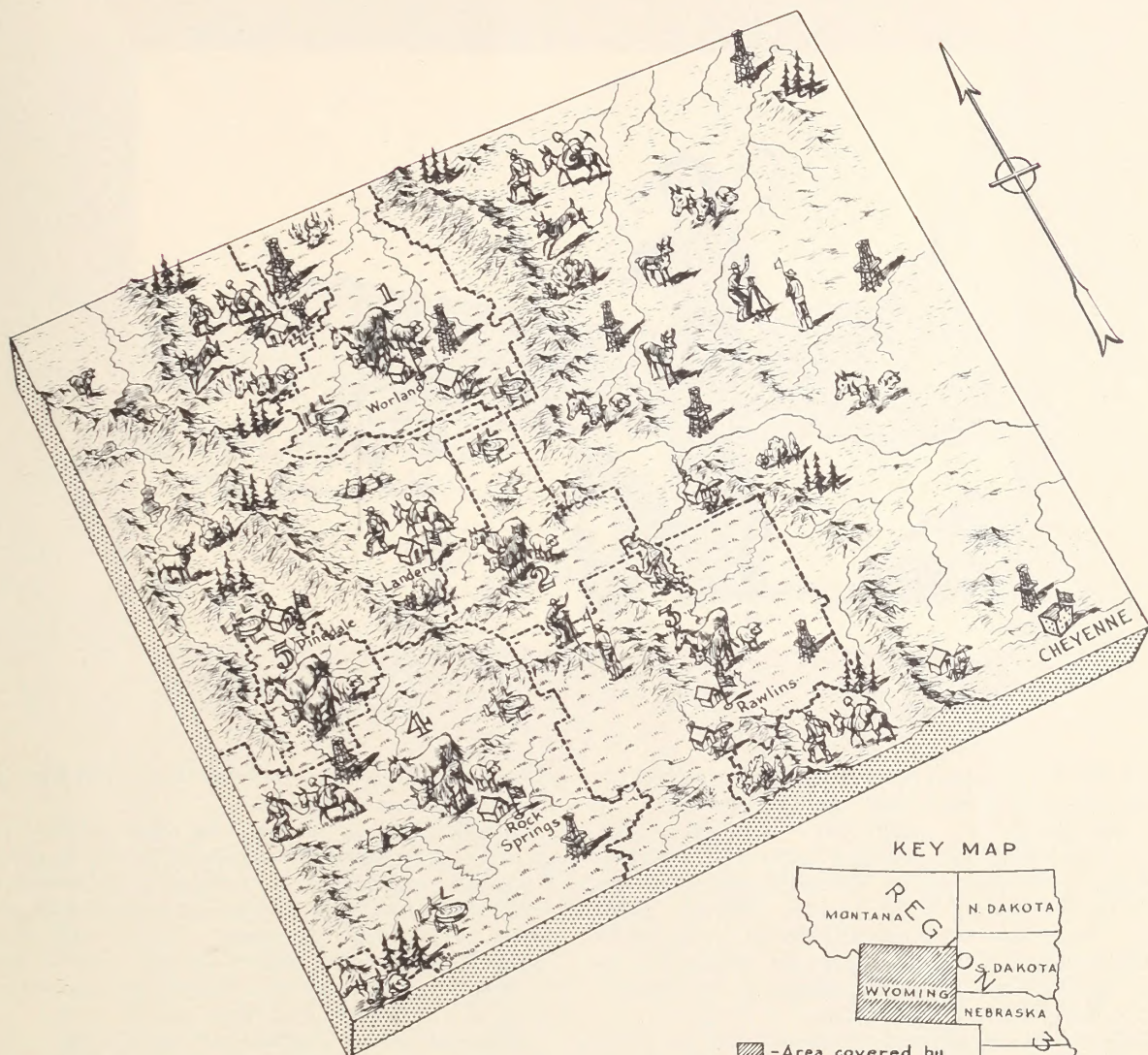
"In areas comprised of both public and private land, the boundaries and limits of ownership should be established during this phase, so that the studies and plans to follow will take into account the ownership of the areas involved. The cadastral survey of the public domain constitutes a basic fact of real significance for any resource development affecting both public and privately owned lands."

THE RECTANGULAR SYSTEM OF SURVEYS

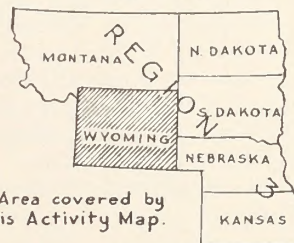
Credit must be given to the early settlers for designing a successful survey system. The simplicity of the plan makes it one of the most efficient and practical systems of land identification ever devised by any nation. It has prevented the vast confusion and litigation over land titles which result from indiscriminate location; it has enabled us to maintain good land title records because of the ease and accurate means of land description; it has resulted in the orderly and compact settlement of our public domain.

Although cadastral surveys have been in progress for 166 years, the program has been performed in a manner that can fairly be described as "quiet efficiency". The public, as a whole, is largely unfamiliar with the work, and as a result may not appreciate the significance of cadastral surveys, but no more basic function of land management can be found. Such surveys lay the cornerstones for all land use and development.

WYOMING LAND-USE AND ACTIVITY MAP



KEY MAP



▨ - Area covered by this Activity Map.

LEGEND

Homesteads	Cadastral Surveys	Grazing Districts	Timber	Land & Survey Office
Small Tracts	Mineral Claims	Grazing Leases Outside Grazing Districts	Woodland Saw Timber	District Grazing Office
Materials	Oil & Gas Leases	Range Improvement	Wildlife	
		Erosion Control Projects	Deer	
		Halogeton Control Project	Bighorn	
			Water Fowl	
			Antelope	

For comments on this map, please see page 10

U. S. GOVERNMENT PRINTING OFFICE : 1952 O-207724

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. — Price 60¢ year, foreign 75¢ year, single copy 15¢.

IT'S THE LAND LAW



Little Bo Peep, whose lost sheep have strayed on public rangeland, had better gather her wits . . . and her sheep . . . about her. Though Rover keeps a watchful eye, he's not "educated" in laws relating to trespassers on Federal property, nor could he be expected to read signs. But the notoriously forgetful Bo Peep should be "well read" on the subject of trespass law and take pains to keep her flock off the public range if she doesn't have a grazing permit or license.

Trespass is sometimes unintentional or accidental, rather than planned, willful use of public lands without permission. Although made without bad intentions, or as in Bo Peep's case, with no "intentions" at all, trespass is a serious thing. Unregulated grazing leads to overgrazing, soil erosion, watershed destruction and, over a period of time, the silting of reservoirs. In addition, it

impinges on the rights of stockmen who have permission to use the range.

Similar strong cases can be made against trespass in other resources managed by the Bureau of Land Management . . . in forestry, minerals, and lands for lease or disposition as homesteads, home sites, or business purposes. Individuals should remember, however, that "trespass" doesn't apply to hunting, fishing, and transitory recreational uses of unreserved and open public land.

Elimination of trespass is a prime objective of the Bureau of Land Management. It is recognized that some cases are certain to occur, carelessly or willfully, and when all efforts to correct the situation fail, it is then the Bureau's responsibility "to proceed with celerity and vigor to stop unauthorized uses and abuses and to bring those in trespass to justice."

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON 25, D. C.

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